

App. No. 10/714,092
Amendment Dated August 15, 2006
Reply to Office Action of March 8, 2006

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REMARKS/ARGUMENTS

Claims 30-33 and 44-59 are pending. Applicants believe the claims are allowable as more fully stated herein.

I. Rejection of Claims 31-32 and 51-52, and 58 Under 35 U.S.C. 112

Claims 31-32 and 51-52, and 58 stand rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as their invention. With regards to claim 31, the Office Action asserts that the claims recite the limitation of "adding local content information to the broadcast data," and because the specification fails to describe the above limitation, it is not clear what "information" is referred to as "local content information", or what is included or excluded by the claim language, and that the claims are an omnibus type claim. Applicants note that local content information is discussed on page 16, first full paragraph, where data (or "information") transmitted in the localcast mode may be either a local replication of broadcast mode data, or local content in the same format, or application data sent via special application-layer protocols. Also, the term "local," as in "local area network" or "LAN," is well-known in the art and would be understood by one skilled in the art at the time the invention was made. Thus "local content information" can be understood to be data that is contained by local systems. Accordingly, applicants request that the rejection be withdrawn.

With regards to claim 51, applicants note (as discussed above) that local content information is discussed on page 16, first full paragraph, where data (or "information") transmitted in the localcast mode may be either a local replication of broadcast mode

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data, or local content in the same format, or application data sent via special application-layer protocols. Also, the term "local," as in "local area network" or "LAN," is well-known in the art and would be understood by one skilled in the art at the time the invention was made. Thus "local content information" can be understood to be data that is contained by local systems. Accordingly, applicants request that the rejection be withdrawn.

With regards to claims 32, 52, and 58, the Office Action asserts that the claims recite the limitation of "adding application data to the broadcast data," and because the specification fails to describe the above limitation, it is not clear what "information" is referred to as "application information," or what is included or excluded by the claim language, and that the claims are an omnibus type claim. Applicants note that application data information is discussed on page 16, first full paragraph, where data (or "information") transmitted in the localcast mode may be either a local replication of broadcast mode data, or local content in the same format, or application data sent via special application-layer protocols. Also, the term "application," as in "application layer" of the OSI stack, is well-known in the art and would be understood by one skilled in the art at the time the invention was made. Thus "application information" can be understood to be data that is used by applications. Accordingly, applicants request that the rejection be withdrawn.

Claims 31-32 and 51-52, and 58 stand rejected under 35 USC §112, first paragraph, as failing to comply with enablement requirements. With regards to claims 31-32, 51-52, and 58, the Office Action asserts that the claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The Office Action further asserts the “adding” limitation of “adding local or application information to the broadcast data” is never described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

With regard to claim 31, applicants note that application data information is discussed on page 16, first full paragraph, where data (or “information”) transmitted in the localcast mode may be either a local replication of broadcast mode data, or local content in the same format, or application data sent via special application-layer protocols. As noted above, the term “application,” as in “application layer” of the OSI stack, is well-known in the art and would be understood by one skilled in the art at the time the invention was made. The OSI stack is a well-known paradigm for describing how data is handled and transferred in accordance with protocols at various levels. The specification further discusses OSI levels on the last paragraph of page 5, where the function of the MCU is to control the functionality above OSI level 2, including running operating system, application, presentation, connection and data selection activities, as well as to drive the user I/O devices at the physical level. Such data presentation is well-known in the art. Thus the limitation “adding local or application information” is enabled by the specification. Accordingly, applicants request that the rejection be withdrawn.

With regard to claim 51, (as discussed above) applicants note that application data information is discussed on page 16, first full paragraph, where data (or “information”) transmitted in the localcast mode may be either a local replication of broadcast mode data, or local content in the same format, or application data sent via special application-

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layer protocols. As noted above, the term "application," as in "application layer" of the OSI stack, is well-known in the art and would be understood by one skilled in the art at the time the invention was made. The OSI stack is a well-known paradigm for describing how data is handled and transferred in accordance with protocols at various levels. The specification further discusses OSI levels on the last paragraph of page 5, where the function of the MCU is to control the functionality above OSI level 2, including running operating system, application, presentation, connection and data selection activities, as well as to drive the user I/O devices at the physical level. Such data presentation is well-known in the art. Thus the limitation "adding local or application information" is enabled by the specification. Accordingly, applicants request that the rejection be withdrawn.

With regard to claim 58, (as discussed above) applicants note that application data information is discussed on page 16, first full paragraph, where data (or "information") transmitted in the localcast mode may be either a local replication of broadcast mode data, or local content in the same format, or application data sent via special application-layer protocols. As noted above, the term "application," as in "application layer" of the OSI stack, is well-known in the art and would be understood by one skilled in the art at the time the invention was made. The OSI stack is a well-known paradigm for describing how data is handled and transferred in accordance with protocols at various levels. The specification further discusses OSI levels on the last paragraph of page 5, where the function of the MCU is to control the functionality above OSI level 2, including running operating system, application, presentation, connection and data selection activities, as well as to drive the user I/O devices at the physical level. Such data presentation is well-

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known in the art. Thus the limitation "adding local or application information" is enabled by the specification. Accordingly, applicants request that the rejection be withdrawn.

The rejected dependent claims are submitted to be patentable for the reasons stated above for the independent claims from which they depend.

II. Rejection of Claims 30-32, 50-52, 56, and 58-59 Under 35 U.S.C. 103(a)

Claims 30-32, 50-52, 56, and 58-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,440,559 issued to Gaskill ("Gaskill"). With respect to claim 30, applicants traverse the rejection because Gaskill fails to teach or fairly suggest receiving at a localcast transmitter data transmitted over an FM subcarrier, locally formatting said transmitted data for local-area wireless transmission, and retransmitting said locally formatted data from said localcast transmitter to a local area.

In contrast, Gaskill in Fig. 12 and col. 7, lines 10-17 teaches the personal computer may receive information that the user may want transmitted to the PCD (Personal Communication Device), that the personal computer may receive information from a network, paging service, or other information source, and that the information could be the same types as the PCD receives from a paging network service. Figure 12 is a schematic block diagram showing a personal communication device having two modes of communicating with a personal computer. As shown in the Figure, the personal computer can establish a point-to-point communications session via an IR link (i.e., between PCD IR transceiver 32 and PC IR transceiver 42). The personal computer can communicate with the PCD by calling the paging service's computers 282 using a modem 278 via the public telephone switch 280. The paging service's computer can

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transmit a message to the PCD using broadcast facilities 284. (See Gaskill, column 13, lines 30-40).

The Office Action apparently cites Gaskill for the proposition that data is received from the paging network in FM format, converted to an IR format, and retransmitted across the IR link (see top of page 4 of the Office Action). Gaskill cannot receive at a localcast transmitter data transmitted over an FM subcarrier because the PCD establishes a point-to-point IRDA session link with the personal computer and does not retransmit the data for a localcast transmission (e.g., to a wireless LAN comprising multiple computers). The IRDA session is limited to line of sight communications (see Gaskill, col. 3, line 45 et seq.), which renders it unsuitable for localcasting (as mentioned in the next paragraph). Furthermore, Gaskill only teaches one IR session between a PCD and a computer hailing device, which teaches away from localcasting. (See the discussion of the high power requirements of the IR LED and the limited power capacity of the PCD at col. 4, lines 48-58, which instead it can be inferred that the PCD would be unsuitable as a relay device.)

As defined by the specification (page 2, first full paragraph), a localcast mode is used to transmit information over a relatively short range, such as within an office or on a corporate campus, which is clearly larger than the communication range provided by an IR link. Additionally, Gaskill teaches how to move data to and from the PCD as a portable device, which teaches away from using the PCD as a localcast relay link. Because the PCD is not a localcast transmitter, Gaskill also fails to teach or suggest locally formatting said transmitted data for local-area wireless transmission, and

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retransmitting said locally formatted data. Accordingly, Gaskill fails to anticipate or fairly suggest claim 30, which is believed to be allowable for the reasons stated above.

Regarding claim 50, Gaskill fails to teach or fairly suggest retransmitting the locally formatted data from the localcast transmitter to a mobile device. In contrast, Gaskill teaches transmission across an IR link to a personal computer, which is described with reference to Figure 12 as a desktop device. However, a desktop personal computer is not considered to be a mobile device. This distinction is significant because the mobile device can be easily transported by a user in normal activities, whereas a desktop computer cannot. As discussed above, Gaskill fails to teach or suggest localcast transmission as recited by the claim. Accordingly, Gaskill fails to anticipate or fairly suggest claim 50, which is believed to be allowable for the reasons stated above.

Regarding claim 56, Gaskill fails to teach or fairly suggest a localcast transmitter that is arranged to receive the broadcast data and locally format the broadcast data for local-area wireless transmission and a mobile device that is arranged to receive the locally formatted data. As discussed above, Gaskill does not teach or suggest localcasting from the PCD, does not teach or suggest localcasting to a mobile device, and does not teach reformatting data received from a broadcast for localcasting. Accordingly, claim 56 is believed to be allowable for at least the reasons stated above for claim 30 and claim 50.

Regarding claim 59, Gaskill fails to teach or fairly suggest a mobile device that is arranged to operate in at least one of a broadcast mode and a localcast mode, wherein the mobile device receives the data broadcast over the FM subcarrier when the mobile device is in the broadcast mode, and the mobile device receives the locally formatted data when

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the mobile device is in the localcast mode. In contrast, Gaskill teaches a mobile device transmitting received information to a desktop computer. Claim 59 is believed to be allowable for at least the reasons stated above for claim 56.

Claims 31-32, 51-52, and 58 are believed to be allowable for at least the reasons stated above for the claims from which they depend.

Claims 33, 53-55, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,440,559 (Gaskill) in view of U.S. Patent No. 5,890,054 (Logsdon). In addition to reasons stated below, claims 33, 53-55, and 57 are believed to be allowable at least for the reasons stated above for the claims from which they depend.

Regarding claim 33, applicants traverse the rejection because Gaskill in view of Logsdon fails to teach or fairly suggest receiving said locally formatted data at a first mobile device; and retransmitting said locally formatted data from the first mobile device to a second mobile device. As noted above, Gaskill does not teach reformatting data from data transmitted over an FM subcarrier and transmitting the data to a mobile device. Logsdon fails to overcome these deficiencies because Logsdon merely enables an intermediary device to forward data destined to/received from the distressed mobile device to its intended destination (see, Abstract). Logsdon operates by forwarding packets and does not reformat data received via an FM subcarrier. Logsdon teaches away from retransmitting said locally formatted data from the first mobile device to a second mobile device because Logsdon allows out-of-range mobile units to initiate communications with a base station, and does not allow for the base stations to

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communicate with out-of-range mobile units. Accordingly, there is no FM-transmitted data received at a localcast transmitter.

Logsdon also operates by communicating with base stations in a cellular network, while localcasting, as defined in the instant specification (page 2, first full paragraph), is used to transmit information over a relatively short range, such as within an office or on a corporate campus. Furthermore, the stated reason for combining the references (extending range) is inapposite to localcasting because localcasting uses intentionally restricted range (for spectrum allocation reasons and other purposes) as compared to the wider ranges of broadcasting. Accordingly, Logsdon and Gaskill, either singly or in motivated combination, do not teach or suggest retransmitting said locally formatted data from the first mobile device to a second mobile device, and the claim is believed to be allowable.

Claims 53 and 57 are submitted to be patentable for at least the reasons for which the claims they depend from are allowable, and the reasons set forth above for claim 33.

Claims 54 and 55 are submitted to be patentable for at least the reasons for which the claims they depend from are allowable, and the reasons set forth above for claim 33. Moreover, the IR communication link is limited to line of sight communications, and is thus not suitable for switching between broadcast and localcast modes.

Claims 44-45 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,440,559 issued to Gaskill in view of U.S. Patent No. 5,548,814 ("Lorang"). With respect to claim 44, applicants traverse the rejection because Gaskill in view of Lorang fails to teach or fairly suggest retransmitting said locally formatted data using a locally-unused FM frequency. As noted in the Action, Gaskill fails to disclose a

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locally-unused FM frequency for retransmitting data in the local area. However, Lorang also fails to teach or fairly suggest the claimed limitations of retransmitting said locally formatted data (that has been received from an FM subcarrier) because Figure 11 merely describes alternate paths of communication to the PDU (portable data unit) to be used when other paths fail. For example, the least preferred path, but having the greatest range, is the "stick" 20 paging cell (FM transmission only), which does not provide an acknowledgement that the transmission has been received (see discussion at col. 12, lines 42-67).

The Office Action states that it would have been obvious to one skilled in the art at the time the invention was made to further incorporate Lorang's teaching to Gaskill for utilizing the standard FM architecture as a candidate solution for low power, two-way links as well as for cost savings using a common RF front end. Applicants traverse this assertion because the alleged motivation is too general ("cost savings") and does not specifically address (absent the applicants' own teachings) why it would be advantageous to use a locally-unused FM frequency to retransmit data transmitted over an FM subcarrier and received by a localcast transmitter. Accordingly, Lorang and Gaskill, either singly or in motivated combination, do not teach or suggest retransmitting said locally formatted data using a locally-unused FM frequency and claim 44 is believed to be allowable.

Claims 45 and 49 are submitted to be patentable for at least the reasons for which the claims they depend from are allowable.

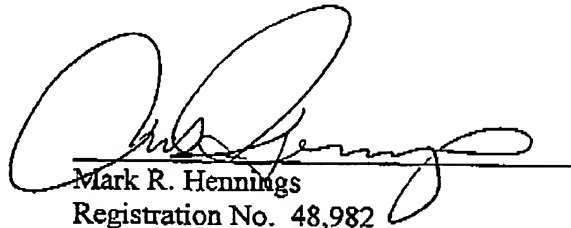
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Claims 46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,440,559 issued to Gaskill in view of U.S. Patent No. 5,168,271 ("Chadwick"). Claims 46-48 are submitted to be patentable for at least the reasons by which the claims they depend from are patentable.

In view of the foregoing amendments and remarks, all pending claims are believed to be allowable and the application is in condition for allowance. Therefore, a Notice of Allowance is respectfully requested. Should the Examiner have any further issues regarding this application, the Examiner is requested to contact the undersigned attorney for the applicants at the telephone number provided below.

Respectfully submitted,

MERCHANT & GOULD P.C.


Mark R. Hennings
Registration No. 48,982
Direct Dial: 206.342.6289

MERCHANT & GOULD P.C.
□ P. O. Box 2903
Minneapolis, Minnesota 55402-0903
206.342.6200

